
Subject: Re: gaussian air dispersion model

Posted by [guillaume.drolet.1](#) on Mon, 28 Nov 2005 17:00:19 GMT

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> So are you going to estimate the cross-wind-integrated ground level
> concentration with the footprint model and the across-wind variation in
> concentration with a gaussian function?

For my purpose, I am not interested in concentrations. What I need are the dimensions (major and minor axes of an ellipse) contributing to the measured fluxes.

The footprint model will give me one dimension: the distance of the footprint in the mean wind direction, for a given measurement period and a given percentage (r) to be included. This distance will be the major-axis of the ellipse. The length of the ellipse's minor-axis (i.e. across-wind width) will be missing and this is what I want to estimate with a gaussian function. How I will do that, honestly, I don't know??? This is where I need help.

> By "this simple model" you mean the footprint model, right?

Yes, this is what I meant.

> I've looked at the URL, but not read the paper. It sounds like the
> footprint model is a simple set of formulae. Do you plan to implement
> this in IDL? Shouldn't be too hard.

I don't plan to implement it in IDL. I've been given it implemented in Matlab. I will use this implementation to get the 'along-wind' distance (i.e. referred to as 'xr' in the footprint model, see previous post).

> So where do you want help?

As I said before, I need a way to estimate the 'across-wind width', knowing the 'along-wind extent' and other variables measured by the tower sensors (e.g., mean wind direction (x,y,z), etc.). I don't have a clue how I'm gonna find this but one thing is sure, I'm gonna need help!
